

TITLE of the INVENTION

"Information coding by algebraic geometric code offering
two decoding options"

TEXT of the ABSTRACT

The present invention concerns a method of coding information symbols according to a code defined on a Galois field F_q , where q is an integer greater than 2 and equal to a power of a prime number, and of length $n = p(q-1)$, where $p > 1$. This coding is designed so that there exists a corresponding decoding method, also disclosed by the invention, in which the correction of transmission errors essentially comes down to the correction of errors in p words of length $(q-1)$ coded according to Reed-Solomon. The invention is particularly advantageous when, through a suitable choice of parameters, the code according to the invention is an algebraic geometric code: in this case, it is possible to correct the transmission errors by the method already mentioned and/or by a conventional method which is less economical but has a higher performance. The invention also concerns devices and apparatus intended to implement these coding and decoding methods. Application in particular to mass storage, and to the transmission of images coded at source.

Figure for the abstract: FIG. 1